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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,036	12/28/2001	Yoshiyuki Takizawa	1794-0146P	4262

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EXAMINER

PRITCHETT, JOSHUA L

ART UNIT PAPER NUMBER

2872

DATE MAILED: 05/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/029,036

Applicant(s)

TAKIZAWA ET AL.

Examiner

Joshua L Pritchett

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 and 7-9 is/are pending in the application.
- 4a) Of the above claim(s) 5, 6 and 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.

- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Election/Restrictions***

Claims 5-6, 7/5, 7/6 and 10 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 6.

Applicant's election with traverse of claims 1-4, 7/1, 7/2 and 8-9 in Paper No. 6 is acknowledged. The traversal is on the ground(s) that the examiner should issue the restriction based on the Figures in the Drawings. This is not found persuasive because the examiner is not required by the MPEP to issue an election of species restriction where the restriction is between the drawings (see MPEP 808.01(a)).

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Otani (JP 05-232297).

Regarding claim 1, Otani discloses a reflecting mirror (3) involving a surface part wherein different types of multilayer films (abstract lines 5-6) have been formed, respectively, in every regions of predetermined shapes (Fig. 1), and reflecting light rays (Fig. 2) which were input, by said surface part. Otani further discloses a detector (4) to which the light rays reflected by said surface part are input (Fig. 2) and which detects spectrally the light rays thus input.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Otani.

Otani teaches that the multilayer films reflect light in the X-ray spectrum (claim 1 line 1). Otani further teaches the layers of the multilayer films being made of nickel and carbon (abstract line 14). The applicant states that the multilayer films in the present invention are made of nickel and carbon (application page 15). It would therefore have been obvious, although perhaps not inherent; to have the multilayer films of Otani have total internal reflection in the visible

spectrum because the multilayer films of Otani are comprised of the same material as the present invention. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the Otani multilayer films have total internal reflection of light in the visible spectrum for the purpose of using the telescope detector to observe only shorter wavelengths than visible light.

Claims 3/1, 3/2, 4/3/1 and 4/3/2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otani in view of Thoe (US 5,027,377).

Regarding claims 3/1 and 3/2, Otani discloses the surface part involves which has been divided into a plurality of sector-shaped areas (Fig. 1) each having a predetermined central angle containing a central portion of the circular shape at its apex (Fig. 2). Fig. 2 shows that each of the small areas shown in Fig. 1 must have its own predetermined angle so as to cause the reflected light to converge onto detector (4). Otani lacks reference to the surface part being a circular shape. Thoe teaches a multilayer X-ray telescope (abstract lines 3-6) that has a surface part that is a circular shape (Fig. 5). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the Otani reference have the circular shape taught by Thoe for the purpose of expanding the incident angle that will be received by the surface part.

Regarding claims 4/3/1 and 4/3/2, Otani discloses the surface part is composed of a plurality of sections each involving a predetermined number of said sector-shaped areas (Fig. 1) in which types of multilayer films formed therein and orders in alignment of the multilayer films coincide with each other in the plural sections (abstract lines 7-12). The abstract of Otani

discloses the use of a plurality of multilayer film reflectors each having a prescribed dimension on the whole of the surface part. Otani also discloses that the height of each small section is the same (abstract line 15-16), which would inherently mean that the regions align with one another.

Claims 7/1, 7/2 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otani in view of Thoe as applied to claims 1-4 above, and further in view of Perryman (US 5,381,001).

Otani in combination with Thoe teaches the invention as claimed but lacks reference to the use of a super conducting tunnel junction detector. Perryman teaches the use of a super conducting tunnel junction detector (29) in a telescope (col. 17 lines 39-41). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the Otani reference detector be a super conducting tunnel junction detector as taught by Perryman for the purpose of detecting quasi-particles.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua L Pritchett whose telephone number is 703-305-7917. The examiner can normally be reached on Monday - Friday 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached on 703-308-1687. The fax phone numbers for the

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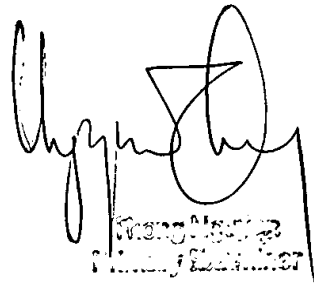
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organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

JLP  
April 17, 2003



A handwritten signature in black ink is written over a rectangular official stamp. The signature is stylized and appears to read 'Chynne'. The stamp contains the text 'Patent Office' and 'Patent Examiner' in a bold, sans-serif font.